Creative Enzymes®

xanthine dehydrogenase

Cat. No. EXWM-1082

Lot. No. (See product label)

Introduction

Description	Acts on a variety of purines and aldehydes, including hypoxanthine. The mammalian enzyme can also convert all-trans retinol to all-trans-retinoate, while the substrate is bound to a retinoid-binding protein. The enzyme from eukaryotes contains [2Fe-2S], FAD and a molybdenum centre. The mammalian enzyme predominantly exists as the NAD-dependent dehydrogenase (EC 1.17.1.4). During purification the enzyme is largely converted to an O2-dependent form, xanthine oxidase (EC 1.17.3.2). The conversion can be triggered by several mechanisms, including the oxidation of cysteine thiols to form disulfide bonds [which can be catalysed by EC 1.8.4.7, enzyme-thiol transhydrogenase (glutathione-disulfide) in the presence of glutathione disulfide] or limited proteolysis, which results in irreversible conversion. The conversion can also occur in vivo.
Synonyms	NAD+-xanthine dehydrogenase; xanthine-NAD+ oxidoreductase; xanthine/NAD+ oxidoreductase; xanthine oxidoreductase

Product Information

Form	Liquid or lyophilized powder
EC Number	EC 1.17.1.4
CAS No.	9054-84-6
Reaction	xanthine + NAD+ + H2O = urate + NADH + H+
Notes	This item requires custom production and lead time is between 5-9 weeks. We can custom produce according to your specifications.

Storage and Shipping Information

Storage	Store it at +4 ℃ for short term. For long term storage, store it at -20 ℃~-80 ℃.